Appl. No. 09/381,497 Amdt. dated July 28, 2004 Amendment Under 37 CFR 1.116 Expedited Procedure PATENT

This listing of claims replaces all prior versions of the claims.

Listing of Claims:

- 1. (currently amended) A recombinant immunoconjugate, comprising a therapeutic agent or a detectable label covalently linked to an RFB4 disulfide-stabilized Fv (dsFv) having a variable heavy chain (V_H) comprising SEQ ID NO:2 in which a Cys residue is substituted for Arg at position 44; and a variable light chain (V_L) comprising SEQ ID NO:4 in which a Cys residue is substituted for Gly at position 100.
- 2. (original) The recombinant immunoconjugate of claim 1, wherein said therapeutic agent is a toxin.
- 3. (original) The recombinant immunoconjugate of claim 2, wherein said toxin is a *Pseudomonas* exotoxin (PE) or a cytotoxic fragment thereof.
- 4. (original) The recombinant immunoconjugate of claim 3, wherein said cytotoxic fragment is PE38.
 - 5. (cancelled)
 - 6. (cancelled)
- 7. (previously presented) The recombinant immunoconjugate of claim 3, wherein said variable heavy (V_H) chain is covalently linked to the carboxyl terminus of said toxin.
- 8. (previously presented) The recombinant immunoconjugate of claim 5, wherein said V_H chain is covalently linked to said V_L chain through a linker peptide.

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- 9. (previously presented) The recombinant immunoconjugate of claim 5, wherein said V_H chain is linked to said V_L chain through a cysteine-cysteine disulfide bond.
- 10. (original) The recombinant immunoconjugate of claim 8, wherein said linker peptide has the sequence of SEQ ID NO:5.
- 11. (previously presented) An expression cassette encoding a recombinant immunoconjugate comprising a sequence encoding for a toxin peptide and an RFB4 disulfide-stabilized Fv (dsFv) having a variable heavy chain (V_H) comprising SEQ ID NO:2 in which a Cys residue is substituted for Arg at position 44; and a variable light chain (V_L) comprising SEQ ID NO:4 in which a Cys residue is substituted for Gly at position 100.
 - 12. (cancelled).
- 13. (original) The expression cassette of claim 11, wherein said toxin is a Pseudomonas exotoxin (PE) or a cytotoxic fragment thereof.
- 14. (original) The expression cassette of claim 11, wherein said cytotoxic fragment is PE38.
 - 15. (cancelled)
- 16. (previously presented) The expression cassette of claim 12, further comprising a sequence encoding for a linker peptide having the sequence of SEQ ID NO:5.
 - 17. (original) A host cell comprising an expression cassette of claim 11.

 Claims 18-21 (cancelled)
- 22. (previously presented) A method for inhibiting the growth of a malignant B-cell that expresses a CD22 molecule on the surface of the cell, said method comprising: contacting said malignant B-cell with an effective amount of a recombinant immunoconjugate of claim 1, thereby inhibiting the growth of the malignant B-cell.

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- 23. (original) The method of claim 22, wherein said toxin is a Pseudomonas exotoxin (PE) or a cytotoxic fragment thereof.
- (original) The method of claim 22, wherein said malignant B-cell is 24. contacted in vivo.
- 25. (original) The method of claim 22, wherein said malignant B-cell is selected from the group consisting of: a rodent B-cell, a canine B-cell, and a primate B-cell.
- 26. (original) The method of claim 23, wherein said cytotoxic fragment is a PE38 fragment.
 - 27. (cancelled)
 - 28. (cancelled)
- 29. (previously presented) The method of claim 23, wherein a variable heavy chain is covalently linked at the carboxyl terminus of said toxin.
- 30. (previously presented) The method of claim 29, wherein said V_H chain is covalently linked to said V_L chain through a linker peptide.
- 31. (original) The method of claim 29, wherein said V_H chain is linked to said V_L chain through a cysteine-cysteine disulfide bond.
- 32. (previously presented) The method of claim 30, wherein said linker peptide has the sequence of SEQ ID NO:5.

Claims 33-49 (cancelled)